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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,568	09/03/2003	Hidefumi Yoshida	2803.68246	5834

7590 10/28/2004  
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EXAMINER
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SCHECHTER, ANDREW M

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 10/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/654,568	<b>Applicant(s)</b> YOSHIDA ET AL.	
	<b>Examiner</b> Andrew Schechter	<b>Art Unit</b> 2871	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 16,17,29,31,32 and 57-64 is/are pending in the application.
- 4a) Of the above claim(s) 31,32,57 and 59-64 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 58 is/are allowed.
- 6) ☒ Claim(s) 16,17 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/454,578.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/3/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 16 is objected to because of the following informalities: "the alignment layer" in the last line should be "the alignment layer formed in the one of said substrates" to make the antecedent unambiguous. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by *Ohe et al.*, U.S. Patent No. 5,600,464.

*Ohe* discloses [see Figs. 1 and 4] a liquid crystal display apparatus comprising a pair of substrates [1], and liquid crystal [12] arranged between the pair of substrates; a plurality of stripe electrodes [vertical sections of 4 and 5] and an alignment layer [8] formed in one of said substrates, an alignment layer [8] formed in the other substrate [see Fig. 1]; said stripe electrodes including first [4] and second [5] groups of stripe

Art Unit: 2871

electrodes parallel to each other, the first group being supplied with a first [image signal voltage] voltage and the second group being supplied with a second [common] voltage different from the first voltage; and an insulating layer [7] covering at least one of the first and second groups of stripe electrodes and arranged under the alignment layer.

Claim 16 is therefore anticipated.

The insulating layer [8] is SiN with a volume resistivity of  $3.0 \times 10^{14} \Omega\text{cm}$  which is larger than the volume resistivity of the polyamide alignment layer  $1.0 \times 10^{14} \Omega\text{cm}$  [col. 10, lines 40-45], so claim 17 is also anticipated.

4. Claim 29 is rejected under 35 U.S.C. 102(e) as being anticipated by *Sato*, U.S. Patent No. 6,072,554.

[The *Sato* reference was filed on 21 December 1998, so this rejection might be overcome by the submission of a certified translation of a priority document disclosing the claimed invention with a date prior to 21 December 1998.]

*Sato* discloses [see Figs. 7-9, for instance] a liquid crystal display apparatus comprising a pair of substrates [110, 140], a liquid crystal [130] between them, a plurality of stripe electrodes [101, 102] and an alignment layer [120] formed in one of said substrates [110]; an alignment layer [121] formed on the other substrate; and said stripe electrodes including first and second groups of stripe electrodes parallel to each other, the first group of stripe electrodes [101] being supplied with a first voltage, and the second group of stripe electrodes [102] being supplied with a second voltage different from the first voltage [see Fig. 9, etc.]; an insulating layer [103] formed in said one substrate under the alignment layer to cover the first and second groups of stripe

Art Unit: 2871

electrodes, said insulating layer being partially removed in the vicinity of at least one of the first and second groups of stripe electrodes [in this case, in the vicinity of 101, the first group, see col. 9, line 61 – col. 10, line 11]. Claim 29 is therefore anticipated.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Sakamoto*, U.S. Patent No. 6,650,389 in view of *Yanagawa et al.*, U.S. Patent No. 5,870,160.

[The *Sakamoto* reference was filed on 14 September 1999, so this rejection might be overcome by the submission of a certified translation of a priority document disclosing the claimed invention with a date prior to 14 September 1999.]

*Sakamoto* discloses [see Figs. 17-19] a liquid crystal display apparatus comprising a pair of substrates [13, 15] with liquid crystal [18] arranged between them; a plurality of stripe electrodes [4, 5] in one substrate, said stripe electrodes including first and second groups of electrodes parallel to each other, the first group [4] being supplied with a first voltage, the second group [5] being supplied with a second voltage different from the first voltage; an insulating layer [19] formed in said one substrate to cover the first and second groups of stripe electrodes, said insulating layer being partially

Art Unit: 2871

removed in the vicinity of at least one of the first and second groups of stripe electrodes [see Figs. 18 and 19].

*Sakamoto* does not explicitly disclose an alignment layer on each substrate next to the liquid crystal layer. *Yanagawa* does disclose [see Fig. 16] such alignment layers, and it would have been obvious to one of ordinary skill in the art at the time of the invention to use them in the device of *Sakamoto*, motivated by the desire to give a proper initial alignment to the liquid crystal molecules. Claim 29 is therefore unpatentable.

#### ***Allowable Subject Matter***

7. Claim 58 is allowed.
8. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not disclose the liquid crystal display apparatus of claim 58, in particular the limitations that there are a plurality of stripe electrodes per pixel on one substrate, a transparent electrode covering substantially the whole surface of the other substrate, and an insulating layer covering the stripe electrodes, having openings above the stripe electrodes with tapered side walls. Claim 58 is therefore allowed.

#### ***Election/Restrictions***

9. Applicant's election with traverse of Species I, Figs. 32-33, 73-74, and 157-158, claims 16, 17, 29, and 58, in the reply filed on 16 August 2004 is acknowledged. The

Art Unit: 2871

traversal is on the ground(s) that Species I and II (Figs. 85-86, claims 31-32) share common features and no serious burden would be imposed on the examiner if they are considered together. This is not found persuasive because Species II is significantly different from Species I: different purposes are served by the partial removal of an insulating or dielectric layer in the two cases, and the inventions are different and require different searches, as can be seen for instance from the quite different scope of the corresponding claims. In the opinion of the examiner, therefore, considering the two species together would be a serious burden.

The requirement is still deemed proper and is therefore made FINAL.

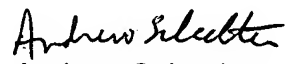
10. Claims 31, 32, 57, and 59-64 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 16 August 2004.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Andrew Schechter  
Patent Examiner  
Technology Center 2800  
26 October 2004